REMARKS

Claims 1, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (6,414,661) in view of Hunter (6,441,560) and Huang et al. (5,751,263). The examiner states that while Shen does not clearly illustrate the concept of a power supply being "programmable" and further did not clearly illustrate the concept of "programming the programmable power supply to compensate for changes in the light output from the light emitting elements", it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Shen et al. apparatus as already modified by Hunter and Yano et al. (sic.: Yano et al. is not included in the stated rejection) to use a programmable power supply as taught by Huang et al. because he teaches motivation in column 8, lines 45-51 (citing the passage: "With a programmable power supply and a programmable current sink, the number of devices used for a decoding switch can be minimized. Power dissipation is limited by driver leakage current instead of MESFET leakage current. As a result, the power dissipation is much lower than that obtained from an array without programmable power supply or programmable current sink"). In addition, the Examiner alleges another well known motivational reason for use of programmable power supplies is to solve the problem of instability of radiation sources such as LED. This rejection is respectfully traversed.

The present claimed invention relates to active matrix organic light emitting diode (OLED) flat-panel color displays (12) that include a plurality of light emitting elements (15, 16, 17) for emitting light of different colors and associated control circuits (page 1, lines 25-32), and a programmable power supply (20, 21, 22, 23) connected to the control circuits. A separate sensor (25, 26, 27) is provided for sensing each color of light emitted by the display to produce a feedback signal for each color; and a display controller (18) responsive to the feedback signal programs the programmable power supply to compensate for changes in the light output from the light emitting elements. In accordance with well know standard active matrix configurations as described in the specification, Claim 1 has been amended to more clearly reference the fact that the plurality of light emitting elements of the claimed active matrix display have a corresponding plurality of associated control circuits for individually controlling the plurality of light emitting elements, and that the power supply is connected to

the plurality of associated control circuits. As more clearly explained with respect to Fig. 1 (and associated text), the light output of each light emitting element 7 in an active matrix display connected to a common power supply 8 is controlled by individual associated control circuit to which a data signal is sent. Rather than require recalibration of individual control signals for each separate light emitting element, the invention advantageously enables correction of aging effects for a set of light emitting elements of the display (e.g., all the light emitting elements of a particular color) connected to a common power supply connected to the control circuits of the set of light emitting elements by employing a programmable power supply responsive to the sensed performance of a representative colored light emitting element.

As acknowledged by the Examiner, Shen does not teach the use of a programmable power supply to compensate for changes in the light output from the light emitting elements thereof. Shen instead teaches to modify individual control signals set for modifying the individual data signals sent to each individual control circuit for each light emitting element thereof. In the present invention, on the other hand, the common power supply for a set of light emitting elements is programmed in response to a sensor feedback signal to compensate for changes in the light output from the light emitting elements. Thus, the light output from a set of light emitting elements may be advantageously automatically changed without having to perform a plurality of individual control circuit signal modifications. As Shen requires correction circuitry, storage, and sensing capability for every pixel, while our invention does not, and as Shen's technique will reduce the dynamic range of the display while our method will not, it is clear that the use of a programmable power supply in accordance with the invention is not the equivalent to putting both the separate power supply and the separate control circuits of Shen into a single "black box" as proposed by the Examiner.

The further combination of Huang et al with Shen (with or without the further combination of Hunter and/or Yano et al.) also would not teach or suggest the present invention. Unlike the present invention directed towards an active matrix display, Huang et al. is directed towards a passive matrix display system. This is a fundamental difference, as passive matrix displays do not employ individual control circuits associated with each of the light emitting elements thereof. Rather, Huang describes a the use of a programmable power

supply and sink connected with a separate connection to each column and row of the display. Address signals are used to turn on each row/column individually and a separate signal (from the programmable power supply) is sent to each row/column. Hence there is no common power signal to multiple light emitting elements. As the control system of Huang et al.'s passive matrix system operates in a substantially different manner than that of an active matrix system, there would be no teaching to employ such power supply in the feedback control of an active matrix system of Shen in order to arrive at the present invention. The specific passage of Huang et al referenced by the Examiner instead only provides motivation to use such programmable power supply in the passive matrix system thereof. Further, the Examiner's alternative alleged motivation (to solve the problem of instability of radiation sources such as LED) does not provide motivation to employ a programmable power supply in combination with a display controller responsive to a feedback signal to program the power supply to compensate for changes in the light output from the light emitting elements of an active matrix display. Reconsideration of this rejection is accordingly respectfully requested.

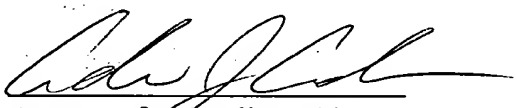
Claims 3, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shen et al. / Hunter / Huang et al. as applied to claims 1 and 5-8 above, and further in view of Stanton et al (6,631,995). The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Shen et al. / Hunter / Huang et al. to have a separate programmable power supplies for each color in the flat-panel display as taught by Stanton et al. because the mere duplication of a part to achieve a multiplicative effect is considered obvious, and further since each led has unique characteristics it is essential for optimum results to use the separate line that goes to each led to provide a specific power level from a separate programmable power supply. This rejection is respectfully traversed.

Stanton describes a projection system with an optical modulator to control brightness. Programmable power supply 56, 58, 60 referenced therein are for controlling projector lamps 50, 52, 54, rather than for controlling power to light emitting elements of an active matrix flat panel display having individual

control circuits associated therewith. As Stanton is clearly directed towards a different application than that of the present invention (as well as that of Shen), one skilled in the art would not be motivated to combine such teachings for any reason, and especially not to employ a programmable power supply in an active matrix display with a display controller responsive to a feedback signal to compensate for changes in the light output from the light emitting elements of the active matrix display. Reconsideration of this rejection is accordingly respectfully requested.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.